

BIOLOGICAL AGENT REFERENCE SHEET

Retrovirus: Lentivirus: HIV Based Vectors

CHARACTERISTICS	
<i>Members</i>	Human immunodeficiency virus (HIV-1 and 2)
<i>Host</i>	Human cells

HEALTH HAZARDS	
<i>Host Range</i>	Humans
<i>Mode of Transmission</i>	Bloodborne (splash or percutaneous)
<i>Signs and Symptoms</i>	HIV: fever, fatigue, weight loss immunological and neurological disease
<i>Infectious Dose</i>	Unknown
<i>Incubation Period</i>	1-6 months (antibodies)

MEDICAL PRECAUTIONS / TREATMENT	
<i>Prophylaxis</i>	None
<i>Vaccines</i>	None
<i>Treatment</i>	Antiretroviral drugs when administered immediately post-exposure
<i>Medical Surveillance</i>	Serological monitoring; cross reactivity possible for ELISA; Western blot test advised for confirmation
<i>Risk Assessment</i>	High-titer of virus will increase risk of developing antibodies; insertional mutagenesis; IBC should evaluate transgene hazards (oncogenic or toxin); relay info to treating MD

LABORATORY HAZARDS	
<i>Lab Acquired Infections (LAIs)</i>	Five reported lab infections (splash or puncture wounds)
<i>Sources</i>	Cell culture, blood and body fluids containing retroviral vector

SUPPLEMENTAL REFERENCES	
<i>Canada BDS</i>	See HIV
<i>BMBL: 5th Ed.</i>	Section VIII (Viral agents)
<i>Other Guidelines</i>	See NIH OBA guidelines

CONTAINMENT REQUIREMENTS	
<i>BSL</i>	BSL-2 or BSL-2 enhanced (safe sharps; sealed rotors) Conduct risk assessment.
<i>ABSL</i>	ABSL-2 (may downgrade to ABSL-1 if replication incompetent 72 hours post exposure)

SPILL PROCEDURES	
<i>Small</i>	Notify others in lab. Cover spill with paper towels and apply viricidal disinfectant. Allow 30 minutes contact time before cleaning up spill. Dispose of all cleanup materials as biohazardous.
<i>Large</i>	Contact EHS – 471-3511

EXPOSURE PROCEDURES	
<i>Mucous Membrane</i>	Flush eyes for 15 minutes at eyewash
<i>Other Exposures</i>	Wash exposed area with soap for 5 minutes
<i>Reporting</i>	Seek medical attention. Report exposure to supervisor ASAP, notify <i>HealthPoint</i> OHP, complete injury form.
<i>Occupational Health</i>	<i>HealthPoint</i> – 471-4647 (available 24/7)

VIABILITY	
<i>Disinfection</i>	10% bleach solution or 70% ethanol
<i>Inactivation</i>	Heat at 56°C for 30+ minutes
<i>Survival Outside Host</i>	90-99% reduction in several hours

PERSONAL PROTECTIVE EQUIPMENT (PPE)	
<i>Minimum PPE Requirements</i>	Gloves, lab coats, closed-toed shoes and eye/face protection.
<i>Additional Precautions</i>	Use biosafety cabinet when working with virus. Respirator if working with large volumes (> 10L) or potential for aerosols.

SAFETY CONSIDERATIONS	
<i>Vector Safety</i>	Use 3 rd generation or later systems (multi plasmids; no TAT gene); replication deficient.